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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/472,818	12/28/1999	KIYOHIKO YAMAYA	TESJ.0014	9250

7590 05/22/2003

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EXAMINER	
GRAHAM, ANDREW R	
ART UNIT	**PAPER NUMBER**
2697	5

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/472,818	YAMAYA, KIYOHIKO	
	Examiner	Art Unit	
	Andrew R Graham	2697	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 28 December 1999 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because of the following informalities:

- Figure 1, while discussed in the disclosure, was not submitted with the application. It appears that this would be page one (1/11) of the submitted drawings.
- Duplicate figures have been submitted that, in some cases, are different versions of the same figure. Figures 8, 10 and 12 have been submitted twice and unmatching versions of Figures 9, 11, 12, 13, 17, 18, and 19 have been submitted.
- On drawing sheet 10/10, for the purpose of clarity, please increase the spacing between the label for Figure 19 and the figure of Figure 18.

The drawings are also objected to because they fail to meet a requirement of CFR § 1.84.

- § 1.84 (1) Character of lines, numbers, and letters:

Every line, number, and letter must be durable, clean, black (except for color drawings), sufficiently dense and dark,

and uniformly thick and well-defined. The weight of all lines and letters must be heavy enough to permit adequate reproduction.

In Figure 2 of page 2/11, Figure 9 of page 6/11, Figure 11 of page 7/11, Figure 13 of page 8/11, Figures 17 and 18 of page 10/11, and Figure 19 of page 11/11 there exists a circle around certain reference labels that, for purposes of reproduction, would need to be darker. As this line passes through portions of the figures though, it is suggested that these circles be removed from the drawings or otherwise modified to not overlap the other parts of the drawings.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

With these guidelines in mind, please remove the phrase "As described above, according to the present invention, there" from line 2 of the page and replace it with the phrase "There". Also, please replace the phrase "Other effects of the present invention are that the pickup apparatus can be" from lines 7 and 8 of the page and replace it with "The pickup apparatus can also be".

Claim Objections

Claims 10, 13, and 14 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The material disclosed in each of these claims is included in the parent claim, Claim 1. These cannot be considered further limiting because they contain reference characters referring to features of the drawings; If the applicant feels that the cited features of the drawings provide further limitation to the parent claim, this feature or these features must be included in the written language of the claim. For Claims 13 and 14, Claim 1 mentions a cast-iron plate and a sound board, which respectively apply to the two groups of members listed in the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1, 7, 9, and 12-14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **Claim 1**, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 7 recites the limitation "the screw portion" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the sub-arms" in the first line of the claim on page 22. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the viscoelastic body" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Regarding **Claims 13 and 14**, the phrase "or similar function" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or similar function"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1, 3-7, and 10-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Izdebski et al (USPN 4290331) in view of applicant's admitted prior art.

Izdebski discloses a pick-up device for an instrument that involves a threaded contact member used for selectively adjusting the pressure applied to a sounding member of the instrument and thereby adjusting the pressure applied to the sensor means. Specifically, Izdebski discloses a pick-up (7) that includes a piezo-electric crystal (9) which is positioned between a contact post (11) and a screw (12) (col. 1, lines 52-60). This screw (12) can be adjusted to

increase or decrease the pressure placed on the crystal (9), and correspondingly, the pressure placed on the bridge (5) of the stringed instrument (1), which in the depicted embodiment is a guitar (col. 1, lines 65-67). The piezo-electric crystal (9) reads on "a sensor member" and the post (11) reads on "and a second contact member which is in contact with a sound source member". The screw (12) and the ability it has to reposition the post (11) reads on "a length-adjusting mechanism provided one or both of first and second contact members". The overall functioning of the device, picking up the vibration of the applied to the strings of the guitar (1) reads on "vibration force applied from said stationary member and said sound source member is converted into electrical energy" (col. 1, lines 67-68 and col. 2, lines 1-12). The pickup device of Izdebski also has another contact member, the housing (8), but it is glued to a non-stationary member of the sound device (1), the bridge (5).

Yet, Izdebski does not specify:

- the device being a pickup apparatus of a piano
- a first contact member which is in contact with a stationary member

However, the applicant's disclosure admits that this particular feature and area of application are already well known in the art. On page 2, lines 24-27, the applicant discloses that a related form of pickup device involves attaching the pickup sensor using two mounting devices, one of which is connected to a sound board of a piano, the

other of which is connected to a backup plate if a piano. The latter of these two mountings reads on "a first contact member which is in contact with a stationary member". The use of such a device in a piano reads on "A pickup apparatus of a piano".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to mount the housing of Izdebski on a stationary member of the sound device as disclosed as part of the applicant's prior known art. The motivation behind such a modification would have been that attaching the housing to a stationary component of the sound device would have increased the detection of the sound waves because the sound waves would have just moved the post connected to the sensor, instead of both the sensor and the overall device.

Regarding **Claim 3**, Izdebski discloses that the crystal sensor (9) of the invention includes a pair of electrodes coupled to leads for outputting an electrical signal to an amplifier in the conventional manner (col. 1, lines 67-68 and col. 2, lines 1-4). Considering the filing date of the invention, 1979, the "conventional manner" of connecting a guitar to an amplifier would have inherently included detachable cords based on the reasoning of interchangeability between guitars and amplifiers as well as the increased portability of separate components. Thus, the electrical connections of Izdebski read on "said sensor member is provided with a plurality of detachable electric signal output connector members".

Regarding **Claim 4**, the connection post (11) and the mounting (8) are provided with a foam rubber mounting (10) and an additional foam block (10') that cushion the two mounting members as well as the crystal sensor (9) (col. 1, lines 53-60). The two foam components read on "provided with a a viscoelestic member and a mass which serve as mechanical vibration filter". The use of vibration absorbers as mechanical filters is also considerably well known in the art.

Regarding **Claim 5**, the prior known art in the applicant's disclosure discussed the use of two mounting members, which reads on "one or both of said first and second contact members are in contact with said stationary member through a single or plurality of mounting members between said stationary member or said sound source member" (page 2, lines 24-27).

Regarding **Claim 6**, the prior known art detailed in the disclosure involves the use if a piezo-electric element, which reads on "the sensor member (1) of the pickup apparatus body (D) comprises piezoelectric force pickup means" (page 2, line 21-24).

Regarding **Claim 7**, the device of Izdebski includes a screw (12) that, in view of the modifications discussed in regards to Claim 1 reads on a "length adjusting mechanism", is connected to the housing (8) of the device through a threaded aperture (13) (col. 1, lines 62-65). The screw (12) itself reads on "the screw portion (11)", the post (11) between the screw (12) and the bridge (5) reads on "a member related to the screw portion (11) and the sound source member (C)", and the bridge (5) reads on "the sound source member (C)". The face

of the housing (8) that includes the threaded aperture (13) and connects the screw (12) to the rest of the housing (8) reads on "a main arm member (12) threadedly engaged with the screw portion".

Regarding **Claim 10**, please refer to the like teachings of Claim 1.

Regarding **Claim 11**, please refer to the like teachings of Claim 4.

Regarding **Claim 12**, please refer to the like teachings of Claim 4, noting that the elastic members of the system of Izdebski are made of foam and foam rubber, which reads on "the viscoelastic body (25) is made of rubber or sponge" (col. 1, lines 53-60).

Regarding **Claim 13**, please refer to the like teachings of Claim 1, noting that the applicants disclosure details a related invention wherein one of the mounting means is attached to the backup plate of the piano (page 2, lines 24-27).

Regarding **Claim 14**, please refer to the like teachings of Claim 1, noting that the applicants disclosure details a related invention wherein one of the mounting means is attached to the sound board of the piano (page 2, lines 24-27).

Regarding **Claim 15**, please refer to the like teachings of Claim 3.

6. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Izdebski in view of applicant's admitted prior art as applied above, and further in view of well known prior art.

As detailed above, Izdebski discloses a pickup apparatus for an audio device that included a screw for adjusting the pressure put on the contact member between a piezoelectric sensor and a sounding

device. The applicant's admitted prior art disclosed that previous versions of related inventions included the positioning of the pickup apparatus between a stationary and sounding member of the audio device.

Yet, Izdebski in view of applicant's admitted prior art does not specify:

- that one or both of the contact members include angle-adjusting mechanisms

However, the examiner takes official notice that, within the concept of flushly securing one surface to another, the concept of including a ball joint type angle adjusting mechanism is well-known in the art. Mechanically, this type of connection is readily apparent in C-clamps, mechanical devices used to firmly secure objects together such as lumber in construction projects. It is well known in the mechanical arts for the adjustable screw portion of these C-clamps to include a rotatable head for adapting the grip of the clamp to a number of possible angles of the relevant face of the object being secured. This adjustable head of the C-clamp reads on "angle-adjusting mechanisms capable of contacting with said stationary member of said sound source member at arbitrary angle".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to modify the invention of Izdebski in view of the applicant's admitted prior art by modifying the post (11) of Izdebski by adding an adjustable head. Such a modification would have been desirable because it would have ensured the same

relative amount of contact during use between the sounding board and the post (11) of Izdebski. The relatively equal amount of contact during the use of the audio apparatus would have promoted a relatively unchanging degree of sound quality throughout the use of the pick-up apparatus.

7. **Claims 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Izdebski in view of applicant's admitted prior art as applied above, and further in view of Johnson (USPN 4022100).

As detailed above, Izdebski discloses a pickup apparatus for an audio device that included a screw for adjusting the pressure put on the contact member between a piezoelectric sensor and a sounding device. The applicant's admitted prior art disclosed that previous versions of related inventions included the positioning of the pickup apparatus between a stationary and sounding member of the audio device.

Yet, in terms of the specifics in which the pick-up device is secured to the piano, Izdebski in view of the applicant's admitted prior art does not specify:

- a main arm member
- bar-like subarms rotatably extending from the main arm member that are in contact with the stationary member

Johnson discloses a fastener for a hollow wall that includes rotatable arms connected to a main plate that are used to secure the overall device to the wall. As can be seen in Figures 1-5, Johnson's

invention (1) is inserted into a hole (24) in the wall and the arms (7) are then extended to secure the device to the wall (20) (col. 2, lines 43-51). The fastener itself is also used to secure another member (25) (col. 2, lines 57-61). When this member (25) is inserted in the fastener, it is connected through the upper body (2) of the device. This upper body (2) and its thin flanges (4) reads on "the main arm member". The arms (7) read "bar-like sub-arms (13) rotatably mounted to opposite ends of the main arm member (12) and the other ends of the sub-arms are in contact with a stationary member", wherein the hollow wall in this situation represents the functional equivalent of the stationary member.

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to use the fastener device of Johnson to secure the threaded type pickup device of Izdebski in view of the applicant's admitted prior art. The motivation behind such a modification would have been that the physical size of the fastener would have held the pickup in place without the need of additional securing means. The fastener would have also allowed the pick-up device to easily be inserted into and removed from the piano, and it would have also been able to form the fastener as a single, molded component.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Spuler (USPN 5109747) discloses a pickup for stringed instruments wherein the pickup surface is rounded and angled.

Kitashima et al (USPN 4084473) discloses a pickup arrangement for a piano that involves the use of piezoelectric sensors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham whose telephone number is (703) 308-6729. The examiner can normally be reached on Monday-Friday (7:30-4:30), excluding alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams, can be reached at (703) 305-4863. The fax number for the organization where this application or proceeding is assigned is 703-872-9314 for regular communications, and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Andrew Graham
Examiner
A.U. 2697

Kimberly A. Williams
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